

**Amendment to the Specification:**

At page 19, please replace the Abstract with the following amended Abstract:

**ABSTRACT**

A method and apparatus for the treatment of coal to form a ~~valuable~~ product gas such as methane (CH<sub>4</sub>), ~~that may be augmented with hydrogen gas~~, and a high purity carbon product. The method includes contacting a coal-containing feedstock with a treatment gas that includes hydrogen. The coal feedstock can advantageously be a low-grade coal that contains high levels of impurities. The methane product gas can be augmented with hydrogen (H<sub>2</sub>) gas. Reactants and by-products are advantageously recycled within the process system to enhance the economics of the process.